

ABSTRACT OF THE DISCLOSURE

The invention has for its object to provide a transmission type illumination device for a stereomicroscope capable of observing objects over a wide magnification range wherein a diffuser that provides a surface light source and an optical element having a periodical structure in a one-dimensional direction are used in combination thereby achieving illumination with reduced field variations. This device is at least made up of, in order from a light source, a collector lens, a diffuser and a convex lens 4b. In the vicinity of the lens 4b located nearest to the side of a viewing surface 5, there is provided an optical element having a periodical structure in a one-dimensional direction. With respect to the angle α for splitting the incident light beam, the optical element 7 having a periodical structure in a one-dimensional direction satisfies the condition $0.5D/L < \tan\alpha < 0.9D/L$ where D is the effective diameter of the secondary light source, and L is the distance from the optical element having a periodical structure in a one-dimensional direction to the secondary light source.